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ABSTRACT

This paper introduces a research-based model of sheltered instruction that promotes teaching practices that make teachers more effective in promoting the learning of limited-English-proficient (LEP) students. The model is instantiated in an observation instrument, the Sheltered Instruction Observation Protocol (SIOP). The SIOP may be used as part of a program for preservice and inservice professional development, as a lesson planner for sheltered content lessons, as a training resource for faculty, and as an observation and evaluation instrument for site-based administrators and researchers who evaluate teachers. This paper presents ways that the SIOP was used to observe and document teachers' implementation of the model in diverse classrooms. Sheltered instruction is an approach for teaching content to English language learners in strategic ways that makes the subject matter comprehensible while promoting students' English language development. The model presented here is intended to provide guidance on the best practices in sheltered instruction, grounded in two decades of classroom based research, the experiences of competent teachers, and findings from the professional literature. (Contains 19 references.) (KFT)

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Using Multiple Perspectives in Observations of Diverse Classrooms: The Sheltered Instruction Observation Protocol (SIOP)

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Introduction

Javier put his head in his hands and sighed. He watched Ms. Barnett standing at the board and tried to understand what she was telling him. He looked at the clock; she'd been talking for 12 minutes now. She wrote some numbers on the board and he noticed his classmates getting out their books. Copying their actions, he too opened his social studies book to the page matching the first number on the board. He looked at the words on the page and began to sound them out, one by one, softly under his breath. He knew some words but not others. The sentences didn't make much sense. Why was this class so tough? He could understand the teacher much better in science. Mrs. Ontero let them do things. They would all crowd around a table and watch her as she did an experiment and then he got to work with his friends, Maria, Huynh, and Carlos, trying out the same experiment. He even liked the science book; it had lots of pictures and drawings. Mrs. Ontero always made them look at the pictures first and they talked about what they saw. The words on the pages weren't so strange either. Even the big ones matched the words Mrs. Ontero had them write down in their personal science dictionaries. If he forgot what a word meant in the textbook, he would look it up in his science dictionary. Or he could ask someone at his table. Mrs. Ontero didn't mind if he asked for help. This social studies class just wasn't the same. He had to keep quiet, he had to read, he couldn't use a dictionary, they didn't do things…

Javier is experiencing different teaching styles in his seventh grade classes. He has been in the United States for 14 months now and gets along with his classmates in English pretty well. They talk about CDs and TV shows, jeans and sneakers, soccer and basketball. But schoolwork is hard. Only science class and PE make sense to him. Social studies, health, math, language arts—they're all confusing. He had a class in English as a second language last year, but not now. He wonders why Mrs. Ontero's science class is easier for him to understand him than the others.

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This paper introduces a research-based model of sheltered instruction that promotes the kind of teaching practices that makes Javier's science teacher more effective than her colleagues in promoting Javier's learning. The model is instantiated in an observation instrument, the Sheltered Instruction Observation Protocol (SIOP). The SIOP may be used as part of a program for preservice and inservice professional development, as a lesson planner for sheltered content lessons, as a training resource for faculty, and as an observation and evaluation measure for site-based administrators and researchers who evaluate teachers. The paper will present ways that the SIOP was used to observe and document teachers' implementation of the model in diverse classrooms.

Sheltered instruction is an approach for teaching content to English language learners in strategic ways that make the subject matter concepts comprehensible while promoting the students' English language development. It also may be referred to as SDAIE (specially designed academic instruction in English). Sheltering techniques are used increasingly in schools across the US, particularly as teachers prepare students to meet high academic standards. However, the use of these techniques are inconsistent from class to class, discipline to discipline, school to school, and district to district. The model of sheltered instruction presented here is intended to mitigate this variability and provide guidance as to what constitutes the best practices for SI, grounded in two decades of classroom-based research, the experiences of competent teachers, and findings from the professional literature.

Background

Each year, the United States becomes more ethnically and linguistically diverse, with over 90% of recent immigrants coming from non-English speaking countries. From the 1985-86 school year through 1994-95, the number of limited English proficient (LEP) students in public schools grew 109% while total enrollment increased by only 9.5% (Olsen, 1997). Thus, the proportion of language minority students in the schools is growing even more rapidly than the actual numbers. In 1994-95, over 3.1 million school-

age children were identified as LEP, approximately 7.3% of the K-12 public school student population. While the number of LEP students has grown exponentially across the U.S., their level of academic achievement has lagged significantly behind that of their language majority peers and these students have high drop-out rates (Bennici & Strang, 1995; Moss & Puma, 1995).

These findings reflect growing evidence that most schools are not meeting the challenge of educating linguistically and culturally diverse students well. This is quite problematic because federal and state governments are calling for *all* students to meet high standards and are adjusting national and state assessments as well as state graduation requirements to reflect these new levels of achievement. In order for students whose first language is not English to succeed in school and become productive citizens in our society, they need to receive better educational opportunities in U.S. schools.

All English language learners in U.S. schools today are not alike. They enter U.S. schools with a wide range of language proficiencies (in English and in their native languages) and of subject matter knowledge.

At one end of the spectrum among immigrant students, we find some ELLs who had strong academic backgrounds before they came to the U.S. and entered our schools. Some of them are above equivalent grade levels in the school's curricula, in math and science for example. They are literate in their native language and may have already begun study of a second language. For these students, much of what they need is English language development so that as they become more proficient in English, they can transfer the knowledge they learned in their native country's schools to the courses they are taking in the U.S. A few subjects, such as U.S. history, may need special attention because these students may not have studied them before.

At the other end, some immigrant students arrive at our schoolhouse doors with very limited formal schooling—perhaps due to war in their native countries or the remote, rural location of their home. These students are not literate in their native

language (i.e., they cannot read or write); and they have not had schooling experiences such as sitting at desks all day, changing teachers per subject, or taking a district- or countrywide test. They have significant gaps in their educational backgrounds, lack knowledge in specific subject areas, and often need time to become accustomed to school routines and expectations.

We also have students who have grown up in the United States but speak a language other than English at home. At one end of the range of students in this group are those students who are literate in their home language, such as Chinese, Arabic, or Spanish, and just need to add English to their knowledge base in school. At the other end, are those who are not literate in any language. They have never mastered English or the home language and may be caught in a state of semiliteracy that is hard to escape.

Given the variability in these students' backgrounds, they often need different pathways for academic success. To meet this challenge, fundamental shifts need to occur in teacher development, program design, curricula and materials, and instructional and assessment practices. The SIOP model promotes, in particular, strategies for improved teacher development and instructional practice.

The Sheltered Instruction Approach

This paper focuses specifically on sheltered instruction, an approach that can extend the time students have for getting language support services while giving them a jump start on the content subjects they will need for graduation. The sheltered approach must not be viewed as simply a set of additional or replacement instructional techniques that teachers implement in their classroom. Indeed, the sheltered approach draws from and complements methods and strategies advocated for both second language and mainstream classrooms. This fact is beneficial to English language learners because the more familiar they are with academic tasks and routine classroom activities, the easier it will be for them to focus on the new content once they are in a regular, English-medium classroom. To really make a difference for these students, sheltered instruction must be

part of a broader school-based initiative that takes into account the total schooling they need.

For English language learners to succeed, they must master not only English vocabulary and grammar, but also the way English is used in core content classes. This "school English" or "academic English" includes semantic and syntactic knowledge along with functional language use. Using English, students, for example, must be able to read and understand expository prose such as that found in textbooks; write persuasively; argue points of view; and take notes from teacher lecture. They must also articulate their thinking skills in English—make hypotheses and predictions, express analyses, draw conclusions, and so forth. In their various content classes, English language learners must pull together their emerging knowledge of the English language with the content knowledge they are studying in order to complete the academic tasks associated with the content area. They must, however, also learn *how* to do these tasks—generate the format of an outline, negotiate roles in cooperative learning groups, interpret charts and maps, and such. The combination of these three knowledge bases—knowledge of English, knowledge of the content topic, and knowledge of how the tasks are to be accomplished—constitutes the major components of academic literacy (Short, 1998).

Another consideration for school success is the explicit socialization of students to the often implicit cultural expectations of the classroom such as turn-taking, participation rules, and established routines. As Erickson and Shultz (1991) have discussed, student comfort with the social participation structure of an academic task, for instance, can vary according to culturally learned assumptions about appropriateness in communication and in social relationships, individual personality, and power relations in the classroom social system and in society at large. Therefore, many English language learners could benefit from being socialized into culturally appropriate classroom behaviors and interactional styles. As Bartolome (1994) states, teachers need to engage in

culturally responsive teaching, so their instruction is sensitive to and builds upon culturally different ways of learning, behaving, and using language.

The SI classroom that integrates language and content and infuses sociocultural awareness is an excellent place to scaffold instruction for students learning English. According to Vygotsky (1978) and others (Tharp & Gallimore, 1988), students' language learning is promoted through social interaction and contextualized communication, which can be readily generated in all subject areas. Teachers guide students to construct meaning from texts and classroom discourse and to understand complex content concepts by scaffolding instruction. When scaffolding, teachers pay careful attention to students' capacity for working in English, beginning instruction at the current level of student understanding and moving students to higher levels of understanding through tailored support. One way they do so is by adjusting their speech (e.g., paraphrase, give examples, provide analogies, elaborate student responses) to facilitate student comprehension and participation in discussions where otherwise the discourse might be beyond their language proficiency level (Bruner, 1978). Another way is by adjusting instructional tasks so they are incrementally challenging (e.g., preteach vocabulary before a reading assignment, have students write an outline before drafting an essay) and students learn the skills necessary to complete tasks on their own (Applebee & Langer, 1983). Through these strategies, teachers can socialize students to the academic language setting. Without such teacher assistance, however, English language learners may fail to succeed in content area courses.

Sheltered instruction plays a major role in a variety of educational program designs. It may be part of an ESL program, a late-exit bilingual program, a two-way bilingual immersion program, a newcomer program, or a foreign language immersion program. For students studying content-based ESL or bilingual courses, SI often provides the bridge to the mainstream and the amount of SI provided should increase as students move towards the transition out of these programs. Any program where students are

learning content through a nonnative language should utilize the sheltered instruction approach.

In some schools, sheltered instruction is provided to classes composed entirely of English language learners. In others, a heterogeneous mix of native and nonnative English speakers may be present. Bilingual, ESL, and content teachers may be the instructors for these classes (Sheppard, 1995). Depending on school system regulations, a sheltered pre-algebra course, for example, might be delivered by an ESL teacher or a mathematics teacher. Ideally, all content teachers would be trained in such areas as second language acquisition and ESL methodology, although as mentioned earlier, often that is not the case. At the high school level, sheltered content courses are more often delivered by content teachers so that students may receive the core content, not elective, credit required for graduation.

Research has shown, however, that a great deal of variability exists in the design of SI courses and the delivery of SI lessons, even among trained teachers (August & Hakuta, 1997; Berman et al., 1994; Kauffman, et al., 1994; Sheppard, 1995, Short, 1998) and within the same schools. Some schools, for instance offer only sheltered instruction courses in one subject area, such as social studies, not in other areas ELLs must study. It is our experience as well after two decades of observing SI teachers in class that one SI classroom does not look like the next in terms of the teacher's instructional language; the tasks the students have to accomplish; the degree of interaction that occurs between teacher and student, student and student, and student and text; the amount of class time devoted to language development issues versus assessing content knowledge; the learning strategies taught to and utilized by the students; the availability of appropriate materials; and more.

A Model for Sheltered Instruction

The development of an SI model is one key to improving the academic success of English language learners: pre-service teachers need it to develop a strong foundation in

sheltered instruction, practicing teachers need t to strengthen their lesson planning and delivery and to provide students with more consistent instruction, site-based supervisors need it to train and evaluate teachers. The model described in this paper is the product of several research studies conducted by the authors over the past decade. It is grounded in the professional literature and in the experiences and best practice of the researchers and participating teachers who worked collaboratively on developing the observation instrument which codifies it. The theoretical underpinning of the model is that language acquisition is enhanced through meaningful use and interaction. Through the study of content, students interact in English with meaningful material that is relevant to their schooling. Because language processes, such as listening, speaking, reading, and writing, develop interdependently, SI lessons incorporate activities that integrate those skills.

In model sheltered instruction courses,language and content objectives are systematically woven into the curriculum of one particular subject area, such as 4th grade language arts, U.S. history, algebra, or life science. Teachers generally present the regular, grade-level subject curriculum to the students through modified instruction in English, although some special curricula may be designed for students with significant gaps in their educational backgrounds or very low literacy skills. Teachers must develop the students' academic language proficiency consistently and regularly as part of the lessons and units that they plan and deliver (Crandall, 1993; Echevarria & Graves, 1996; Short, 1991). The SI model we have developed shares many strategies found in high quality, non-sheltered teaching for native English speakers, but it is characterized by careful attention to the English language learners' distinctive second language development needs.

Accomplished SI teachers modulate the level of English used with and among students and make the content comprehensible through techniques such as the use of visual aids, modeling, demonstrations, graphic organizers, vocabulary previews, predictions, adapted texts, cooperative learning, peer tutoring, multicultural content, and

native language support. They strive to create a nonthreatening environment where students feel comfortable taking risks with language. They also make specific connections between the content being taught and students' experiences and prior knowledge and focus on expanding the students' vocabulary base. In effective SI lessons, there is a high level of student engagement and interaction with the teacher, with each other, and with text that lead to elaborated discourse and higher-order thinking. Students are explicitly taught functional language skills as well, such as how to negotiate meaning, ask for clarification, confirm information, argue, persuade, and disagree. Through instructional conversations and meaningful activities, students practice and apply their new language and content knowledge.

Depending on the students' proficiency levels, SI teachers also offer multiple pathways for students to demonstrate their understanding of the content. For example, teachers may plan pictorial, hands-on, or performance-based assessments for individual students, group tasks or projects, informal class discussions, oral reports, written assignments, portfolios, and more common measures such as paper and pencil tests and quizzes to check on student comprehension of the subject matter and language growth. Besides increasing students' declarative knowledge (i.e., factual information), teachers highlight and model procedural knowledge (i.e., how an academic task, like organizing a science laboratory report, may be accomplished) along with study skills and learning strategies (e.g., note-taking).

The sheltered instruction model is also distinguished by use of supplementary materials that support the academic text. These may include related reading texts (e.g., trade books), graphs and other illustrations, models and other realia, audiovisual and computer-based resources, adapted text, and the like. The purpose for these materials is to enhance student understanding of key topics, issues, and details in the content concepts being taught through alternate means than teacher lecture or dense textbook prose. Supplementary materials can also aid teachers in providing information to students with

mixed proficiency levels of English. Some students in a mixed class may be able to utilize the textbook while others might need adapted text.

The SI model has been designed for flexibility and tested in a wide range of classroom situations: those with all English language learners and those with a mix of native and nonnative English speakers; those with students who have strong academic backgrounds and those with students who have had limited formal schooling; those with students who are recent arrivals and those who have been in US schools for several years; those with students at beginning levels of English proficiency and those with students at advanced levels. In a preliminary study of student writing (using pre and post measures), students who participated in classes taught by teachers trained in the SI model significantly improved their writing skills more than students in classes with non-SI-trained teachers.

It is important to recognize that the SI model does not require teachers to throw away their favored techniques, nor add copious new elements to a lesson. Rather, the sheltered instruction model brings together *what to teach* by providing an approach for *how to teach* it. The model offers a framework for selecting and organizing techniques and strategies and facilitates the integration of district or state level standards for English as a second language and for specific content areas.

Development of the Sheltered Instruction Observation Protocol

The SIOP was designed as an instrument for educators to use in a number of ways. First, we found that school personnel wanted and needed an objective measure of high quality sheltered lessons, and the SIOP operationalizes a model of effective sheltered instruction. School site administrators use the SIOP as a way to provide clear, concrete feedback to the teachers they observe. The SIOP is also useful to university faculty who teach sheltered instruction strategies, as well as those faculty who supervise field experience. Although developed as an observational instrument, teachers use the features of the SIOP as a planning guide. Finally, the SIOP is a tool for researchers

for determining the extent to which sheltered instruction is implemented in a given classroom and helps to maintain fidelity of implementation.

The first version of the Sheltered Instruction Observation Protocol was drafted five years ago in order to exemplify the model of sheltered instruction we were developing. The preliminary instrument was field tested with sheltered teachers and refined according to teacher feedback and our observations in the classrooms. This early draft, like subsequent ones, pulled together findings and recommendations from the research literature with our professional experiences and those of our collaborating teachers on effective classroom-based practices from the areas of ESL, bilingual education, reading, language and literacy acquisition, discourse studies, special education, and classroom management.

In 1996, the National Center for Research on Education, Diversity & Excellence (CREDE) was funded by the Office of Educational Research and Improvement, U.S. Department of Education, and included a study on sheltered instruction in its research program. The purpose of the research project was to develop an explicit model of sheltered instruction that could be implemented by teachers of students with limited English proficiency in order to improve the academic success of the students.

The project built on preliminary versions of the SIOP as a small cohort of teachers worked with the researchers to refine the SIOP further in 1997. This effort included distinguishing between effective strategies for beginners, intermediate, and advanced English language learners; determining "critical" versus "unique" sheltered teaching strategies, the latter being language-modification or support oriented (e.g., slower speech, use of bilingual dictionaries); and making the SIOP more user-friendly.

Over the course of the next three years (1998-2000), the model has been used (and refined) in four large urban school districts (two on the west coast and two on the east coast) to train an expanded team of middle school teachers in implementing effective

sheltered strategies in their classes. The project teachers use sheltered instruction in a variety of settings, including traditional ESL classes, content-based ESL classes, and sheltered content classes. Some of the teachers are trained content specialists, and others are trained ESL specialists. The proficiency levels of the English language learners (ELLs) range from beginning to advanced. The SIOP is utilized both as an observation instrument for researchers and teachers to match the implementation of lesson delivery to the model of instruction and as a tool for teachers to plan and deliver lessons.

As part of the professional development aspect of the project, teachers participated in 3-day professional development institutes in the summers (one on the east coast, another on the west coast) to explore the project's goals and the observation instrument with the researchers. The institutes also provided practice on implementing the project's model of sheltered instruction using the SIOP, through demonstration lessons and discussion and analysis of videotaped classroom scenes. Then, for each school year, we have observed classroom instruction and videotaped three classes of participating teachers, one in the fall, winter, and spring. Control teachers on each coast who have not participated in the were videotaped in the fall and spring. After each observation, a SIOP was completed and scored for the teacher. The researchers shared these analyses with teachers on an ongoing basis, as a means of facilitating teacher growth and validating the research interpretations. SIOP data collected throughout the project will be subsequently analyzed to determine overall teacher change and significant development in specific areas of instructional practice.

In addition, during each year, the teachers and researchers met periodically. The purpose of these meetings was to discuss topics related to the research agenda, refine the sheltered instruction model, review and discuss videotaped lessons, and provide constructive feedback to help improve instruction. (For further details on the professional development aspects of the project see Short & Echevarria, 1999.)

After several years of field-testing and refining the SIOP, a study was conducted (Echevarria, Garino & Rueda, 1997) to establish the validity and reliability of the instrument. The findings of the study indicated that the SIOP was confirmed to be a highly reliable and valid measure of sheltered instruction.

The Sheltered Instruction Observation Protocol

Specifically, the Sheltered Instruction Observation Protocol provides concrete examples of the features of sheltered instruction that can enhance and expand teachers' instructional practice. The protocol is composed of 30 items grouped into 3 main sections: Preparation, Instruction, and Review/Assessment. The six items under Preparation examine the lesson planning process, including the language and content objectives, the use of supplementary materials, and the meaningfulness of the activities. Instruction is subdivided into six smaller categories: Building background, Comprehensible input, Strategies, Interaction, Practice/application, and Lesson delivery. The 20 items in these six categories emphasize the instructional practices that are critical for English language learners, such as making connections with students' background experiences and prior learning, adjusting teacher speech, emphasizing vocabulary development, using multimodal techniques, promoting higher order thinking skills, grouping students appropriately for language and content development, and providing hands-on materials. As part of the Review/Assessment section, four items consider whether the teacher reviewed the key vocabulary and content concepts, assessed student learning, and provided feedback to students on their output.

Each individual item is scored using a five-point Likert scale with scores ranging from 0 to 4. For example, in Figure 1, under Preparation item 4 (use of supplemental materials), a teacher would receive a score of 4 if he used supplementary materials (e.g., graphic organizers, visual aids, trade books) to a high degree throughout his lesson, making the lesson clear and meaningful for the ELLs. Another teacher would receive a score of 2 if she only made some use of supplementary materials. A third might receive a

0 if no supplementary materials were used at all. N/A (not applicable) is also available if a lesson does not warrant the presence of a particular item. The scoring option of N/A is important because it distinguishes a feature that is not applicable to the observed lesson from a score of '0' which indicates that the feature should have been present but wasn't. It is not expected that each item would be present in every daily lesson, but it is expected that effective SI teachers would address each item several times over the course of a week.

Figure 1: SIOP Sample

PREPARATION

	4	2	0	NA
4.	Supplementary materials used to a high degree, making the lesson clear and meaningful (graphs, models, visuals)	Some use of supplementary materials	No use of supplementary materials	

Comments:

In addition to the 5-point rating scale, the SIOP provides space for qualitative data. It is recommended that the observer use the 'comments' section to record examples of the presence or absence of each feature. That way, both the observer and the teacher have specific information, besides a score, to use in their post-lesson discussion. More information may be added to the comments section during the post-lesson discussion, documenting the content of the discussion for future reference, which is particularly useful as subsequent lessons are planned.

Teaching Scenarios

The following teaching scenarios demonstrate how the SIOP made be utilized by a researcher, administrator or teacher education supervisor to observe and rate sheltered

instruction. The focus of these scenarios is on three teachers' implementation of SIOP item 10 under the section, Comprehensible Input. The scenarios represent 9th grade science classrooms with students ranging in ESL proficiency from beginning to advanced. An example of how this science lesson would be scored using the SIOP follows each scenario.

Figure 2: SIOP Sample

COMPREHENSIBLE INPUT

4	2	0	NA
10. Speech appropriate for students' proficiency level (e.g., slower rate, enunciation, and simple sentence structure for beginners)	Speech sometimes inappropriate for students' proficiency level.	Speech inappropriate for students' proficiency level.	

Comments:

Example 1: As Mr. Lew began the lesson, he drew students' attention to the objective written on the board and told students that the purpose of the unit was to understand why some objects float and others sink. As he said the word float, he pointed at an orange floating in the aquarium at the front of the room, and as he said the word sink, he dropped a peeled orange into the water, which sank to the bottom. Then he repeated while pointing at the corresponding object, "Some things float and others sink." He went on to tell the students that at the end of the unit they would be able to calculate and predict whether something is buoyant enough to float. The words, float, sink, calculate, predict and buoyant were written in the word bank for students to see. The word list included content vocabulary (buoyant, float and sink) as well as functional language (calculate and predict). Since many of his students were recent immigrants and

had gaps in their educational backgrounds, Mr. Lew was careful to make sure students not only knew the meaning of content vocabulary, but also to know the meaning of words associated with academic tasks, such as predict and calculate.

Throughout the lesson, Mr. Lew used language structures and vocabulary that he believed the students could understand at their level of proficiency. He slowed his normal rate of speed to make himself better understood by the students and he enunciated clearly. Also, he avoided the use of idioms, and when he sensed that students did not understand him, he paraphrased to convey the meaning more clearly. He repeated important words frequently and wrote them for students to see.

SIOP Evaluation: Mr. Lew receives a score of "4" on this item. He slowed his rate of speech and enunciated clearly when he addressed beginning speakers; he adjusted his speech for the other, more proficient speakers of English. He used a natural speaking voice, but paid attention to his rate of speed and enunciation.

Further, Mr. Lew adjusted the level of vocabulary and complexity of the sentences he used so that students could understand. Since most students were beginning English speakers, he selected words that were appropriate to his students' proficiency level. Although the science book highlighted nearly 15 terms for the unit on buoyancy, Mr. Lew learned from experience that it is better for his students to learn a smaller number of vocabulary words thoroughly than to give superficial treatment to dozens of content-associated vocabulary. His students will be able to use and apply the selected words and their concepts since they have a complete understanding of their meaning.

Example 2: As is her practice, Mrs. Castillo wrote the objective, "Find the mass volume ratio for objects that float," on the board. She began the lesson by

discussing the fact that some things float and others sink, giving examples of objects that float, such as a large ship and others that sink, such as a small coin. Then she asked the class if they knew what makes some objects float and others sink. A few students guessed, but nobody was able to give an accurate explanation. During the discussion, Mrs. Castillo paid attention to her rate of speech and she tried to use sentences that were less complex than those she would naturally use, but some of the students still seemed confused while she was talking.

Mrs. Castillo told the students to read the first three pages of their text to themselves and they would discuss it when they'd finished. After the students indicated that they were done reading, Mrs. Castillo asked students if there were any words in the text they did not know. Several students called out unfamiliar words, and the teacher wrote them on the overhead. Then she assigned students at each table a word to look up in the glossary. After several minutes, she asked the students what they had found. Only about half of the words were included in the glossary, since the other words were not science terms per se, but words such as "therefore," and "principle." Mrs. Castillo orally gave students the definitions of those words that were not in the glossary, and then summarized the information the students read in the text for 10 minutes. As she talked, she occasionally spoke too fast for many of the students to understand and she used long, detail-laden sentences in her summary. When she noticed that students were not paying attention, she slowed her rate of speech to make it understandable and to regain students' interest.

SIOP Evaluation: Mrs. Castillo received a score of "2" on the SIOP. Her rate of speech and enunciation vacillated between that used with native speakers and a rate that

her students could understand. She didn't consistently adjust her speech rate or complexity to the variety of proficiency levels in the class. She was aware that her E.L.L. students needed extra attention in understanding the language, but she only addressed their needs by asking for unfamiliar vocabulary. She could have paraphrased, using simpler sentence structure, and she could have used synonyms for words that appeared too difficult for students to understand.

Example 3: Mr. Dillon began the lesson by having students open their science text to the chapter on buoyancy. He told them that in this unit they would learn what makes objects buoyant. He gave a five minute oral introduction to the concepts behind buoyancy, discussing the fact that if the object's mass exceeds its volume, then it will sink. Mr. Dillon used a rate and speaking style that was appropriate for native speakers, but not the beginning English speakers in his class. He then directed the students' attention to 13 vocabulary terms written on the board and told the class to copy each word, look up the definition in the glossary, and copy the definition onto their paper. After students looked up vocabulary words in the glossary, Mr. Dillon asked them to put the paper in their homework folders. He told them that they needed to take the words home and their homework assignment was to use each word in a sentence. He emphasized that students needed to complete their homework since he had been frustrated by low homework response rates in this class.

Then Mr. Dillon turned to the science text, telling students to open their books to the beginning of the chapter. He proceeded to lecture from the text, asking students questions to stimulate a class discussion. Most students were reluctant to speak up. After lecturing on the material in the first 5 pages of the text, Mr. Dillon gave students a

worksheet about buoyancy. He told them they could work in pairs or alone, calculating the mass/volume ratio of the objects shown on the worksheet. He said, "You remember how to calculate mass/volume ratios? First you determine the volume of the object, and then you take the mass and divide it by the volume. Ok, just calculate the ratios for each object shown on the worksheet, and when you finish, you may begin doing your homework."

SIOP Evaluation: Mr. Dillon received a "0" on the SIOP. He did not make any effort to adjust his oral presentation to the needs of the English language learners in his class. He lectured about new, complex concepts without regard to his rate of speech or complexity of speech, variables that impact ELLs' ability to comprehend information in class. Also, copying definitions for new terms and requiring students to create original sentences is an inordinately difficult task for ELLs. Unwittingly, Mr. Dillon set the students up for failure and then was frustrated by the low number of completed homework assignments. While he believed students chose not to complete assignments, in reality they *could not* complete the type of assignment he gave.

Further, Mr. Dillon did not discuss the lesson content, class or homework assignment in any meaningful or understandable way for ELLs. He thought that discussing the material in the chapter would make the concepts clear for his students, and he asked them questions during his lecture. Unfortunately, his efforts were lost on the English language learners who needed richer, comprehensible development of the lesson's concepts to understand the text or lecture. Also, the few students that participated in the discussion gave the teacher the inaccurate impression that the class was following along in the discussion.

Using the SIOP

When observing a lesson with the SIOP, scores may be assigned in a number of ways: 1) during the observation itself as individual features are recognized, 2) after the observation, as the observer reflects on the entire lesson, referring to observational field notes or 3) after the lesson while watching a videotape of the lesson. The third option could be performed by the observer alone, yet it is also a useful way to involve the teacher in the scoring. The teacher and observer can watch the videotape together while scoring, then share the same point of reference when discussing the lesson. We suggest that, to assist in more accurate scoring, the observer ask the teacher for a copy of the lesson plan in advance of observing the lesson. That way, the observer is better able to score the Preparation section as well as recognize N/A items.

It is important to stress that not all items on the SIOP will be present in every lesson. However, some items are essential for each lesson such as items under Preparation, Comprehensible Input, Interaction, and Review and Assessment. Over the course of time (several lessons, a week), all items should be represented in one's teaching.

Naturally, there is an element of subjectivity to interpreting the items and assigning scores. Observers must be consistent in their scoring. For example, one person may think that on item #3 (Content concepts appropriate for age and educational background level of students) only grade-level materials are appropriate while another observer may feel that the same content found in materials for lower grade levels may be used because of the students' low reading levels or because students have interrupted educational backgrounds. In either case, observers must be consistent in their interpretation and scoring across settings.

No matter which way the scoring takes place, scores may be used 'as is' to serve as a starting point for a collaborative discussion between a teacher and a supervisor or among a group of teachers. We have found that videotaping a lesson, rating it, and

discussing it with the teacher provides an effective forum for professional growth. We also get valuable information from teachers explaining a student's behavior or why something may not have taken place despite the lesson plan that included it, for example. The discussion may take place between the teacher and the observer, or a group of teachers may meet on a regular basis to provide feedback to one another and assist in refining their teaching.

Scores may also be documented over time to show growth. Using percentages, teachers can see how their implementation of the SIOP features improves. This type of documentation is also useful for research purposes, to document systematic implementation of the SIOP and fidelity of implementation. Further, plotting scores on a graph is a very effective way to illustrate strong areas as well as areas that require attention, or areas teachers have highlighted as important for their own growth. If a teacher consistently shows low scores on certain items, that provides the teacher with clear feedback for areas on which to focus.

Finally, while the SIOP is a useful tool for professional development, scores should be used with caution. Many variables impact the success or failure of a given lesson such as time of day, time of year, dynamics between students, and the like. Rather than just doing one observation and scoring of a teacher, several lessons should be rated over time for a fuller picture of the teacher's implementation of sheltered instruction.

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